

REMARKS

Applicant thanks the Examiner for the courtesy extended during a telephone interview on July 21, 2003. The following remarks summarize what was discussed at the interview.

During the interview, the undersigned presented a proposed set of amended claims, which are the same as the amended claims now presented here.

The undersigned explained that the essence of the present invention is not simply in the use of an orifice, but in the specific orientation of the orifice relative to the other components.

In particular, the undersigned explained that the orifice of the present invention has a longitudinal axis which is generally parallel to the surfaces of the plate. This feature is clearly shown in Figure 5D of the present application. This orientation promotes a tight seal, as it insures that fluid passing through the orifice will first press the seal radially outwardly, and will then press the seal laterally against both fluid components that abut the seal (the fluid components are not shown in Figures 5C and 5D, but would be located on the left-hand and right-hand sides of the plate). The seal contacts both fluid components simultaneously, and with approximately equal pressure, and with uniform pressure distribution. By providing a structure which causes the seal to lodge firmly and simultaneously against both fluid components, the claimed arrangement prevents leakage of hydraulic fluid.

Another way of viewing the above-claimed feature is to imagine the insertion of a stiff wire radially outwardly through the orifice of the present invention. The wire will puncture the seal, but will not intersect the plane that includes the line of abutment between the seal and the fluid

component. The latter feature is a consequence of the claimed parallel orientation of the orifice.

The patent to Hinderliter, discussed during the interview, does not teach or suggest the geometry now recited in the claims. It is clear that Hinderliter, which discloses a joint for sections of cylindrical pipe, does not teach a sealing plate having parallel surfaces. Also, the orifices 22 of Hinderliter cannot be said to have a longitudinal axis which is parallel to the two parallel surfaces of a sealing plate. There is no sealing plate in Hinderliter, and there are no comparable parallel surfaces to which the axis of the orifice can itself be parallel.

Moreover, Hinderliter fails the "wire" test suggested above: a wire inserted radially outwardly through any of the orifices 22 would directly intersect the plane of contact between the surfaces being sealed. In the present invention, the wire would intersect the seal, but would never reach the junction between the seal and the fluid component, or any plane extending therefrom.

Thus, while Hinderliter has an orifice, its orifice lacks the structure and function of the orifice recited in the amended claims.

The Examiner has admitted that the patent to Smith shows no orifice. Hinderliter provides no suggestion of an orifice having a longitudinal axis that is parallel to the parallel surfaces of a sealing plate. During the interview, the Examiner appeared to recognize that Hinderliter is not relevant to the geometry now claimed. Applicant therefore submits that the combination of Smith and Hinderliter does not meet the limitations of the amended claims.

Applicant has considered the other references cited by the Examiner but not applied to the claims. The Examiner has cited various references for their teachings of orifices.

While it is true that other references show orifices, none meets the limitations of the pending claims. In every case, the orifice "points" to a sealing junction; a wire inserted through the orifice would eventually intersect that junction. In the present invention, a wire inserted through the orifice would never reach the sealing junction, because of its parallel orientation relative to the surfaces of the sealing plate. Applicant submits that, for purposes of the present argument, the other cited references are no more pertinent than Hinderliter.

For the above reasons, Applicant submits that the amended claims define a patentable invention over all references of record.